WHAT IS CLAIMED IS:

1. A linear actuator for a control valve of an injection molding apparatus, comprising:

a position sensor and
a cooling assembly,
wherein said position sensor is integrated into said cooling assembly.

2. The linear actuator according to claim 1, wherein said control valve is positioned within a hot runner manifold, said actuator includes a cylinder-piston unit and said cooling assembly includes a cooling plate, said cooling plate arranged between said hot runner manifold and said cylinder-piston unit.

3. The linear actuator according to claim 2, wherein said position sensor is disposed within said cooling plate.

4. The linear actuator according to claim 1, further comprising a control unit which receives signals from said position sensor only for one of completely open or completely closed positions of the control valve.

5. The linear actuator according to claim 4, wherein said position sensor sends signals to the control unit for intermediate positions of the control valve.

6. The linear actuator according to claim 1, wherein said position sensor is an inductive sensor.

7. A linear actuator for a control valve of an injection molding apparatus, comprising:

a position sensor and
a cooling assembly,

wherein said position sensor is position substantially proximal to said cooling assembly.

8. An injection molding apparatus, comprising:

a hot runner manifold comprising at least one melt channel;

a nozzle fluidly connected to said melt channel of said hot runner manifold;

a valve gate disposed within said nozzle;

a valve pin running through at least a portion of said nozzle to open and close said valve gate;

a mold defining a mold cavity disposed adjacent said valve gate; and

a linear actuator connected to said valve pin having a position sensor and a cooling assembly, wherein said position sensor is integrated into said cooling assembly.

9. An injection molding apparatus, comprising:

a hot runner manifold comprising at least one melt channel;

a nozzle fluidly connected to said melt channel of said hot runner manifold;

a valve gate disposed within said nozzle;

a valve pin running through at least a portion of said nozzle to open and close said valve gate;

a mold defining a mold cavity disposed adjacent said valve gate; and

a linear actuator connected to said valve pin having a position sensor and a cooling assembly, wherein said position sensor is position substantially proximal to said cooling assembly.